

## REMARKS

Claims 1-18 are pending in the case. In the Office Action mailed January 12, 2005, the Examiner took the following action: (1) objected to the drawings; (2) rejected claims 1-2, 4, and 13-14 under 35 USC § 102(b) as being anticipated by Singhal (U.S. 4,566,335); (2) rejected claims 3 and 15 under 35 USC § 103(a) as being unpatentable over Singhal in view of Suga et al. (U.S. 5,303,634); and (3) rejected claims 7-10 and 17 under 35 USC § 103(a) as being unpatentable over Singhal in view of Rao (U.S. 4,748,854). The Examiner acknowledged that claims 5, 6, 11, 12, and 18 would be allowable if rewritten to include all of the limitations of their respective base and intermediate claims. Applicant expresses appreciation to the Examiner for acknowledging the presence of allowable subject matter, and respectfully requests reconsideration of the application in view of the foregoing amendments and the following remarks.

### *I. Objection to the Drawings*

In response to the Examiner's objections to the drawings, formal drawings have been prepared and are submitted concurrently herewith. Applicant respectfully requests reconsideration and withdrawal of the objection to the drawings.

### *II. Rejections of the claims over Singhal, Suga, and Rao*

#### Claims 1-6

Claim 1 recites an apparatus *for tension-testing first and second curved specimens*, comprising: a first end member adapted to be *coupled to first end portions of the first and second curved specimens*; a second end member adapted to be *coupled to second end portions of the first and second curved specimens*; and an approximately rigid member disposed between the first and second end members and adapted to be *disposed between the first and second curved specimens*, the approximately rigid member *having a pair of curved outer surfaces adapted to be*

*engaged against at least a portion of each of the first and second curved specimens between the first and second end portions thereof. (emphasis added).*

Singhal (U.S. 4,566,335)

Singhal teaches an apparatus for testing a single test specimen. As shown in the drawing of Singhal, the test specimen 12 is engaged with a frame member 10. A screw member 14 is threaded through an opening 1 in the frame member 10, and applies an adjustable load against the test specimen 12 via a bearing plate 13. (2:15-26). A pair of tubular members 20 “prevent the apparatus from rolling over during a test procedure.” (2:26-27).

Singhal does not disclose, teach, or fairly suggest the apparatus taught by Applicant. Specifically, as recited in claim 1, Applicant’s invention is directed to *tension-testing first and second curved specimens*. The apparatus of Singhal only tests a single test specimen 12. Applicant respectfully submits that the frame member 10 is not a test specimen, but rather, is the primary structural component of the test apparatus of Singhal. Although recitations in a preamble provide patentable weight only when such limitations “breath life” into the claim, this condition is clearly met. For example, the following additional limitations contained within the body of the claim further specify that the apparatus recited in claim 1 is directed to the testing of first and second curved specimens: (1) “a first end member *adapted to be coupled to first end portions of the first and second curved specimens*”, (2) “a second end member *adapted to be coupled to second end portions of the first and second curved specimens*”, (3) “an *approximately rigid member ... adapted to be disposed between the first and second curved specimens*”, and (4) “the *approximately rigid member having a pair of curved outer surfaces adapted to be engaged against at least a portion of each of the first and second curved specimens*”. (emphasis added).

Furthermore, Applicant respectfully disagrees with the assertion that the screw member 14 has “a pair of curved outer surfaces 11 adapted to be engaged against at least a portion of each of the first and second curved specimens 10, 12.” (Office Action, pages 3, lines 1-3). First, the

ends 11 in question are part of the frame member 10, and are not associated with the screw member 14. And second, the screw member 14 engages against a plate member 13, which in turn, engages against the single test specimen 12. There is no teaching or suggestion in Singhal of the plate member 13 *having a pair of curved outer surfaces adapted to be engaged against at least a portion of each of the first and second curved specimens* as recited in claim 1. Finally, although the frame member 10 is not a curved specimen as noted above, the screw member 14 is threadedly engaged through the hole 15 in the frame member 10, and does not include a curved outer surface adapted to be engaged against the frame member 10 as required by claim 1.

For the foregoing reasons, Singhal does not anticipate or render obvious the apparatus recited in claim 1, and claim 1 is allowable.

Suga (5,305,634)

Suga teaches an apparatus for testing a single test specimen. As shown in Figure 1, Suga teaches a holder 1 including a pair of slide rods 6 coupled at an upper end by a connecting member 5 and at a lower end by a first holding member 3. A second holding member 4 is slideably disposed on the slide rods 6. A single test specimen 2 is coupled between the first and second holding members 3, 4. A pair of coils 7 apply a tensioning force against the second holding member 4, thereby applying a tension force on the test specimen 2. (3:59-4:16).

Suga fails to remedy the above-noted absent teachings of Singhal. More specifically, Suga fails to disclose, teach, or fairly suggest an apparatus directed to *tension-testing first and second curved specimens*, and including “a first end member *adapted to be coupled to first end portions of the first and second curved specimens*”, “a second end member *adapted to be coupled to second end portions of the first and second curved specimens*”, “an *approximately rigid member ... adapted to be disposed between the first and second curved specimens*”, and “the *approximately rigid member having a pair of curved outer surfaces adapted to be engaged against at least a portion of each of the first and second curved specimens*” as recited in claim 1.

(emphasis added). Therefore, claim 1 is patentable over Suga, either singly or in combination with Singhal. Claims 2-6 depend from claim 1 and are patentable over Singhal and Suga for the same reasons as claim 1, and also due to additional limitations contained in those claims.

#### Claims 7-12

Claim 7 recites an assembly *for tension-testing a pair of contoured specimens*, comprising: a first support member *adapted to be coupled to first end portions of the contoured specimens*; a second support member *adapted to be coupled to second end portions of the contoured specimens*; and an *approximately rigid member* disposed between the first and second support members and *adapted to be disposed between the pair of contoured specimens*, the approximately rigid member *having a pair of contoured outer surfaces adapted to be closely engaged along at least a portion of each of the contoured specimens* between the first and second end portions thereof when a test force is applied to pull the first and second support members in substantially opposite directions. (emphasis added).

Singhal does not disclose, teach, or fairly suggest the apparatus recited in claim 7. In addition to the absent teachings of Singhal noted by the Examiner on page 5 of the Office Action (namely, that Singhal fails to teach or suggest “a test force being applied to pull the first and second support members in substantially opposite directions”), Singhal also fails to teach or fairly suggest an apparatus directed to *tension-testing a pair of contoured specimens*, or a first support member *adapted to be coupled to first end portions of the contoured specimens*, a second support member *adapted to be coupled to second end portions of the contoured specimens*, or an *approximately rigid member ... adapted to be disposed between the pair of contoured specimens*, or an approximately rigid member *having a pair of contoured outer surfaces adapted to be closely engaged along at least a portion of each of the contoured specimens* as recited in claim 7. For these reasons, and the additional reasons cited above with respect to claim 1, Applicant respectfully submits that Singhal fails to teach or fairly suggest the apparatus recited in claim 7.

Rao (U.S. 4,748,854)

Rao teaches an apparatus for testing a single test specimen. As shown in Figure 1, Rao teaches an apparatus 10 that includes upper and lower cylinder actuators 12, 14. A single test specimen 24 is attached to the upper and lower cylinder actuators 12, 14, and a tensioning force is applied. (4:6-10, 4:49-59).

Rao fails to remedy the above-noted absent teachings of Singhal. More specifically, Rao fails to disclose, teach, or fairly suggest an apparatus directed to *tension-testing a pair of contoured specimens*, or a first support member *adapted to be coupled to first end portions of the contoured specimens*, a second support member *adapted to be coupled to second end portions of the contoured specimens*, or an *approximately rigid member ... adapted to be disposed between the pair of contoured specimens*, or an *approximately rigid member having a pair of contoured outer surfaces adapted to be closely engaged along at least a portion of each of the contoured specimens* as recited in claim 7. (emphasis added). Therefore, claim 7 is patentable over Rao, either singly or in combination with Singhal. Claims 8-12 depend from claim 1 and are patentable over Singhal and Rao for the same reasons as claim 1, and also due to additional limitations contained in those claims.

Claims 13-18

Claim 13 recites a method of *simultaneously tension-testing a pair of curved specimens*, comprising: *coupling a first end member to first end portions of the pair of curved specimens*; *coupling a second end member to second end portions of the pair of curved specimens*; *disposing an at least approximately rigid member between the first and second end members and between the pair of curved specimens*; *applying a test force that moves the first and second end members apart*; and *simultaneously with applying the test force, at least partially engaging the pair of curved specimens against a pair of curved outer surfaces of the at least approximately rigid member*. (emphasis added).

For the reasons set forth above, the cited references (Singhal, Suga, and Rao), either singly or in combination, fail to teach or fairly suggest the method recited in claim 13. Specifically, the cited references fail to teach or suggest a method directed to *simultaneously tension-testing a pair of curved specimens* including “*coupling a first end member to first end portions of the pair of curved specimens,*” or “*coupling a second end member to second end portions of the pair of curved specimens;*” or “*disposing an at least approximately rigid member ... between the pair of curved specimens,*” or “*engaging the pair of curved specimens against a pair of curved outer surfaces of the at least approximately rigid member*” as recited in claim 13. (emphasis added). Therefore, claim 14 is patentable over the cited references, either singly or in combination. Claims 14-18 depend from claim 13 and are patentable over the cited references for the same reasons as claim 13, and also due to additional limitations contained in those claims.

## CONCLUSION

Based on the foregoing amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the above-noted rejections, and the allowance of all pending claims 1-18. If there are any remaining matters or concerns that may be handled by telephone, the Examiner is kindly invited to telephone the undersigned.

Respectfully submitted,  
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Enclosures: Formal Drawings

## MAIL CERTIFICATE

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